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Intelligence Memorandum

Communist Military Aid Deliveries to North Vietnam

DIA review(s) completed.

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ER IM 68-149
November 1968

Copy No. 1

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Foreword

This memorandum presents an analysis of the value and volume of Soviet and Chinese Communist military deliveries to North Vietnam. Although data are presented on cumulative deliveries since 1954, the analysis is focused on deliveries during the first half of 1968. The memorandum was prepared jointly by the Central Intelligence Agency and the Defense Intelligence Agency.

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COMMUNIST MILITARY AID DELIVERIES
TO NORTH VIETNAM

Summary

The continued receipt of military aid deliveries from its Communist allies has been essential to the military defense of North Vietnam and the conduct of the war in South Vietnam. Since 1954 the cumulative value of Communist military aid deliveries, valued at Soviet foreign trade prices, is estimated to be about \$1.8 billion.* During the first half of 1968, the value of military aid to North Vietnam is estimated at about \$275 million, somewhat below the level for the same period in 1967. The estimated drop in the value of military aid reflects the lower requirements for ammunition and surface-to-air missiles that resulted from the US bombing standdown in the northern portion of the country. Despite this decline, the continued receipt of additional jet fighters and equipment for missile-firing battalions during the first six months of 1968 emphasized the willingness of the Communist countries to continue to underwrite North Vietnamese and Viet Cong demands for armaments.

The USSR is the major supplier of military aid, providing about three-fourths of the total; Communist China provides most of the remainder, with small amounts from Eastern European countries and North Korea. Military aid from Eastern Europe increased in the first half of 1968 but still is only a small part of the total. The USSR continues to supply ammunition and most of North Vietnam's air defense equipment; Communist China's aid is principally in ammunition and infantry weapons.

** Soviet foreign trade prices are the list prices charged for military hardware and ammunition by the USSR under its aid agreements with non-Communist countries. Values calculated at equivalent US costs, intended to reflect the cost of the Soviet materiel if it were produced in the United States, generally are higher than the foreign trade valuations. Values in Tables 1 and 2 are expressed in both types of prices, but values in the text are given in foreign trade prices.*

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Besides the quantifiable imports of military equipment, Chinese, Soviet, and North Korean military personnel have been stationed in North Vietnam to assist in training, maintenance, and construction activities; and North Vietnamese have gone to Communist China, the USSR, and Czechoslovakia for military training. Most of the Communist countries have supplied to North Vietnam a steady flow of the military-related goods necessary for continuing the war.

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Introduction

1. Military equipment and ammunition from other Communist countries have been key elements in North Vietnam's war-making capabilities. Imports of military materiel -- with more than 90 percent of total deliveries having come in since early 1965 -- have equipped North Vietnamese army and Viet Cong regular force units fighting in South Vietnam with some of the latest Communist conventional weapons. North Vietnam's air defense system has been continually upgraded with new jet fighters, antiaircraft artillery, and the Soviet SA-2 surface-to-air missile system. Although details of military aid agreements are not available, it is apparent that the major Communist donors of such aid are willing to supply the Communist forces in North and South Vietnam with the quantities and types of weapons requested, with few exceptions. All military aid is estimated to have been in the form of grants.

Communist Military Aid Deliveries to North Vietnam

2. Communist military aid to North Vietnam during the first half of 1968, valued in foreign trade prices, is estimated at about \$275 million, about 15 percent below the estimated deliveries during the same period of 1967. The cumulative value of Communist military aid deliveries to North Vietnam through mid-1968 is almost \$1.8 billion, as shown in the following tabulation:

	Million US \$					
	<u>1954-64</u>	<u>1965</u>	<u>1966</u>	<u>1967</u>	<u>Jan-Jun 1968</u>	<u>Total</u>
USSR	70	210	360	505	220	1,365
Communist China	70	60	95	145	50	420
Eastern Europe	Negl.	Negl.	Negl.	Negl.	5	5
North Korea	0	0	Negl.	Negl.	Negl.	Negl.
<i>Total</i>	<i>140</i>	<i>270</i>	<i>455</i>	<i>650</i>	<i>275</i>	<i>1,790</i>

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3. The estimated mix of military imports into North Vietnam changed during the first half of 1968 because of the restriction of bombing against the heavily defended targets in the north. Imports of some items of air defense materiel during the first few months of 1968 probably continued at the same rate as in 1967, but were reduced as stockpiles were developed. For example, imports of surface-to-air missiles at the beginning of the year are estimated at about 375 per month -- the average number expended against US aircraft during the last half of 1967. However, Rolling Thunder sorties were limited by adverse weather during the first quarter, and only about 135 SAM's per month were fired. With the 31 March restrictions on US bombing, SAM expenditures dropped to less than 20 per month, and imports undoubtedly were reduced. Imports of antiaircraft artillery ammunition probably were reduced in a similar pattern during the first half of the year. These reductions in military imports were partly offset by the import from the USSR of eight MIG-21 jet aircraft during the second quarter and of equipment for ten surface-to-air missile battalions by the end of June. Imports of some other items in North Vietnam's military inventory are believed to have been reduced.

4. The Soviet Union continued to be the principal supplier of military aid, providing almost four-fifths of the total value of deliveries to North Vietnam during the first half of 1968, as it did in 1965-67. Communist China supplied slightly less than one-fifth, whereas the combined shares provided by Eastern European countries and North Korea amounted to only about 2 percent of the total. Military aid from the USSR during the first half of 1968 consisted primarily of ammunition and sophisticated air defense equipment such as surface-to-air missile battalions and advanced MIG-21 fighter aircraft. Communist China provided additional ammunition and most of the small arms and other infantry weapons. Military aid from the Eastern European countries and North Korea consisted of infantry equipment and comparatively small amounts of ammunition. Estimated military aid deliveries from the USSR and Communist China, by quantity and value from 1965 through mid-1968, are shown in Tables 1 and 2.

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5. Imports of ammunition made up more than one-half of the total value of military aid in 1967 and the first six months of 1968. The value of ammunition delivered to North Vietnam by the USSR and Communist China is estimated at about \$170 million during the first half of 1968, about a 15 percent reduction from the preceding half year. Surface-to-air missiles and equipment for missile battalions made up about one-fourth of the total value of military aid in the first half of both years. Other ground weapons and air combat and defense equipment, including radar, infantry weapons, and artillery, made up most of the remainder. The combined value of military vehicles and naval craft was less than 2 percent of the total in both periods.

6. In addition to the quantified military assistance, a considerable amount of other military aid and of military-related equipment has been provided. Military personnel from the USSR, Communist China, and North Korea are assisting the North Vietnamese. Between 30,000 and 50,000 Chinese support troops -- the number is believed to be decreasing -- have worked on construction, repair, and air defense in North Vietnam, primarily on rail lines and airfields in the north. Chinese military personnel also have participated in training North Vietnamese troops. The number of Soviet military technicians now in North Vietnam is believed to be somewhat below the estimated 2,500 that were present in mid-1965, when the USSR had operational control of the newly introduced SAM system. Soviet military personnel also have been training North Vietnamese jet fighter pilots and have provided technical assistance for communications, maintenance, and logistic support activities. North Korea has a small contingent of flight personnel flying combat patrols in North Vietnam. Vietnamese military personnel have also been trained in the USSR, Communist China, and Czechoslovakia.

7. The aid agreements for 1968, negotiated with Communist countries during the period August-October 1967, were generally declared to be for strengthening the economic and national defense potential of North Vietnam. Details of the agreements are lacking, but official public statements indicate that Communist China, North Korea, Bulgaria, Poland, the USSR, Hungary, and Rumania agreed to provide grants of military assistance in 1968. During the period May through July of

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this year, Bulgaria, Rumania, Hungary, Poland, and Czechoslovakia signed supplementary military aid agreements for the remainder of 1968, and all nine Communist aid donors -- the eight mentioned above plus East Germany -- signed agreements for military aid in 1969.

8. The level and the composition of Communist military aid to North Vietnam during the last half of 1968 probably will not be changed appreciably. With the current bombing standdown, replacement needs for surface-to-air missiles and imports of antiaircraft artillery ammunition will remain below 1967 levels. Further additions to North Vietnam's inventories of MIG aircraft and radar have already been seen since mid-1968. However, current defenses are deployed in depth around North Vietnam's major industrial and population centers as well as for defense of logistical routes in the Panhandle, and the value of these imports during the remainder of the year may continue to decline.

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Table 1

Soviet Military Aid Deliveries to North Vietnam a/
1965 - January-June 1968

	1965			1966			1967			January-June 1968		
	Million US \$			Million US \$			Million US \$			Million US \$		
	Quantity (Units)	At Soviet Foreign Trade Prices	At US Costs	Quantity (Units)	At Soviet Foreign Trade Prices	At US Costs	Quantity (Units)	At Soviet Foreign Trade Prices	At US Costs	Quantity (Units)	At Soviet Foreign Trade Prices	At US Costs
Total value b/		<u>210</u>	<u>280</u>		<u>360</u>	<u>440</u>		<u>505</u>	<u>590</u>		<u>220</u>	<u>230</u>
SAM missile systems		<u>72</u>	<u>77</u>		<u>77</u>	<u>85</u>		<u>142</u>	<u>162</u>		<u>74</u>	<u>81</u>
Firing battalions c/	15	66	70		44	47	5	22	23	10	44	46
Replacement missiles d/	200	6	7	1,100	33	38	4,000	120	139	1,000	30	35
Aircraft	<u>57</u>	<u>17</u>	<u>35</u>	<u>85</u>	<u>45</u>	<u>53</u>	<u>20</u>	<u>16</u>	<u>22</u>	<u>8</u>	<u>6</u>	<u>9</u>
IL-28 light jet bomber	8	3	11									
MIG-21 jet fighter	11	9	12	26	21	28	20	16	22	8	6	9
MIG-15/17 jet fighter	32	4	10	42	6	13						
MI-6 helicopter				6	12	7						
MI-4 helicopter	3	1	1	7	1	1						
U-MIG-15 jet trainer	3	Negl.	1									
AN-24 medium transport				3	3	3						
IL-18 heavy transport				1	2	1						
Naval craft										<u>2</u>	<u>Negl.</u>	<u>Negl.</u>
Poluchat-1 class motor gunboat										2	Negl.	Negl.
Armor	<u>133</u>	<u>5</u>	<u>8</u>	<u>15</u>	<u>Negl.</u>	<u>1</u>	<u>123</u>	<u>5</u>	<u>8</u>		<u>Negl.</u>	<u>Negl.</u>
T-54 medium tank	30	3	4				40	3	5			
T-34 medium tank	25	1	2									
PT-76 amphibious tank	25	1	1	5	Negl.	1	10	1	1			
BTR-40 armored personnel carrier	25	Negl.	Negl.	10	Negl.	Negl.	40	1	1			
BTR-50 armored personnel carrier							3	Negl.	Negl.			
ZSU-57 self-propelled gun	8	Negl.	1									
SU-76 assault gun							30	Negl.	1			
Other	20	Negl.	Negl.								Negl.	Negl.
Artillery e/	<u>1,430</u>	<u>38</u>	<u>80</u>	<u>2,830</u>	<u>50</u>	<u>109</u>	<u>2,230</u>	<u>53</u>	<u>105</u>	<u>5</u>	<u>Negl.</u>	<u>Negl.</u>
100-mm antiaircraft	100	5	14	100	5	14						
85-mm antiaircraft	315	12	27	55	2	5	465	19	40			
57-mm antiaircraft	485	17	31	735	25	46	590	21	37			
37-mm antiaircraft	250	2	6	1,850	17	44	850	8	20			
14.5-mm antiaircraft	230	1	1	50	Negl.	Negl.	100	Negl.	1			
Field gun (76-152 mm)	50	1	1	40	1	Negl.	225	5	7	5	Negl.	Negl.
Radar	<u>23</u>	<u>2</u>	<u>1</u>	<u>160</u>	<u>17</u>	<u>25</u>	<u>89</u>	<u>2</u>	<u>15</u>	<u>45</u>	<u>2</u>	<u>6</u>
Trucks and other vehicles f/	<u>650</u>	<u>2</u>	<u>2</u>	<u>400</u>	<u>2</u>	<u>2</u>	<u>850</u>	<u>4</u>	<u>4</u>	<u>470</u>	<u>2</u>	<u>2</u>
Small arms and other infantry weapons		<u>1</u>	<u>1</u>		<u>2</u>	<u>2</u>		<u>1</u>	<u>1</u>		<u>Negl.</u>	<u>1</u>
Ammunition (metric tons)	<u>17,000</u>	<u>70</u>	<u>70</u>	<u>40,000</u>	<u>164</u>	<u>164</u>	<u>68,000</u>	<u>275</u>	<u>275</u>	<u>32,000 g/</u>	<u>131</u>	<u>131</u>

a. The data refer exclusively to combat materiel; they exclude aid designed for war-support purposes.

b. Because of rounding, components may not add to the total values shown.

c. Price per firing battalion includes a factor for replacement parts and the cost of an initial complement of missiles.

d. Rounded figure based on estimated number of missiles fired, with some provision for stockpiling.

e. North Vietnam's inventory of antiaircraft artillery has recently been revised downward from the high estimate for 1967, and a small, but unknown, number of antiaircraft weapons carried as imported in 1967 probably were imported in 1968.

f. Estimates for vehicles assigned to the armed forces. Vehicles used for military-support purposes are not included.

g. Estimates of ammunition imports from the USSR range from 30,000 to 34,000 metric tons.

Table 2
Chinese Communist Military Aid Deliveries to North Vietnam a/
1965 - January-June 1968

	1965			1966			1967			January-June 1968		
	Million US \$			Million US \$			Million US \$			Million US \$		
	Quantity (Units)	At Soviet Foreign Trade Prices	At US Costs	Quantity (Units)	At Soviet Foreign Trade Prices	At US Costs	Quantity (Units)	At Soviet Foreign Trade Prices	At US Costs	Quantity (Units)	At Soviet Foreign Trade Prices	At US Costs
Total value b/		<u>60</u>	<u>70</u>		<u>95</u>	<u>110</u>		<u>145</u>	<u>160</u>		<u>50</u>	<u>50</u>
Aircraft	<u>3</u>	<u>1</u>	<u>3</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>61</u>	<u>8</u>	<u>19</u>			
MIG-15/17 jet fighter	<u>3</u>	<u>1</u>	<u>3</u>				<u>61</u>	<u>8</u>	<u>19</u>			
Naval craft	<u>2</u>	<u>2</u>	<u>2</u>	<u>2</u>	<u>2</u>	<u>2</u>	<u>6</u>	<u>4</u>	<u>5</u>	<u>1</u>	<u>1</u>	<u>1</u>
Shanghai-class motor gunboat	<u>2</u>	<u>2</u>	<u>2</u>	<u>2</u>	<u>2</u>	<u>2</u>						
P-6 class motor torpedo boat							<u>6</u>	<u>4</u>	<u>5</u>			
Huchuan-class hydrofoil motor torpedo boat										<u>1</u>	<u>1</u>	<u>1</u>
Other								Negl.	Negl.		Negl.	Negl.
Armor	<u>25</u>	<u>1</u>	<u>2</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
T-34 medium tank	<u>25</u>	<u>1</u>	<u>2</u>									
Artillery c/	<u>320</u>	<u>6</u>	<u>11</u>	<u>140</u>	<u>4</u>	<u>6</u>	<u>645</u>	<u>8</u>	<u>10</u>	<u>2</u>	<u>Negl.</u>	<u>Negl.</u>
57-mm antiaircraft	<u>100</u>	<u>4</u>	<u>6</u>	<u>100</u>	<u>4</u>	<u>6</u>	<u>100</u>	<u>4</u>	<u>6</u>			
37-mm antiaircraft	<u>200</u>	<u>2</u>	<u>5</u>									
14.5-mm antiaircraft							<u>120</u>	<u>1</u>	<u>1</u>			
Field gun (76-100 mm)	<u>20</u>	<u>Negl.</u>	<u>Negl.</u>		<u>Negl.</u>	<u>Negl.</u>	<u>425</u>	<u>3</u>	<u>3</u>	<u>5</u>	<u>Negl.</u>	<u>Negl.</u>
Radar	<u>33</u>	<u>3</u>	<u>4</u>	<u>112</u>	<u>2</u>	<u>16</u>	<u>67</u>	<u>1</u>	<u>8</u>	<u>25</u>	<u>2</u>	<u>3</u>
Trucks and other vehicles d/	<u>600</u>	<u>3</u>	<u>3</u>	<u>400</u>	<u>2</u>	<u>2</u>	<u>700</u>	<u>4</u>	<u>4</u>	<u>200</u>	<u>1</u>	<u>1</u>
Small arms and other infantry weapons		<u>10</u>	<u>10</u>		<u>35</u>	<u>41</u>		<u>22</u>	<u>20</u>		<u>4</u>	<u>5</u>
Ammunition (metric tons)	<u>8,000</u>	<u>33</u>	<u>33</u>	<u>10,000</u>	<u>41</u>	<u>41</u>	<u>23,000</u>	<u>24</u>	<u>24</u>	<u>10,000</u>	<u>41</u>	<u>41</u>

a. The data refer exclusively to combat materiel; they exclude aid designed for war-support purposes.

b. Because of rounding, components may not add to the total values shown.

c. North Vietnam's inventory of antiaircraft artillery has recently been revised downward from the high estimate for 1967, and a small, but unknown, number of antiaircraft weapons carried as imported in 1967 probably were imported in 1968.

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